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## (54) Biosensor systems and methods for determining the presence of biomolecules

(57) Systems and method for determining the presence of biomolecule are disclosed. Briefly described, a representative biosensor system 100 includes a target complex 150 disposed on a conductive substrate 105. The target complex 150 includes a target biomolecule 115 and a target nanoparticle 125. The target nanoparticle 125 is disposed on the target biomolecule 115. In addition, the biosensor includes an image nanoparticle 135 disposed on the target nanoparticle 125. The image nanoparticle 135 is electrochemically deposited on the target nanoparticle 125. The biosensor system also includes a detector capable of determining the presence of the target biomolecule 115 by detecting the image nanoparticle 135.

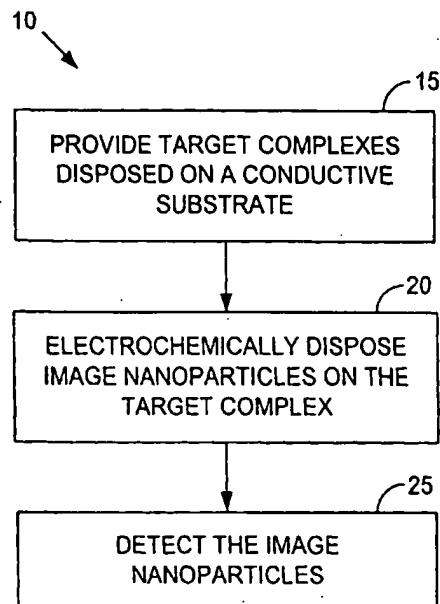


FIG. 1



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## EUROPEAN SEARCH REPORT

Application Number  
EP 04 25 0167

DOCUMENTS CONSIDERED TO BE RELEVANT			
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A	US 2002/034756 A1 (LETSINGER ROBERT L ET AL) 21 March 2002 (2002-03-21) * abstract; figure 1 * ----- -/-	1-10	
The present search report has been drawn up for all claims			
2	Place of search Munich	Date of compilation of the search 6 June 2005	Examiner Komenda, P
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone	T : theory or principle underlying the invention		
Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date		
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## EUROPEAN SEARCH REPORT

Application Number  
EP 04 25 0167

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A	CAO Y C ET AL: "Nanoparticles with raman spectroscopic fingerprints for DNA and RNA detection" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, US, vol. 297, 30 August 2002 (2002-08-30), pages 1536-1540, XP002977805 ISSN: 0036-8075 * abstract; figure 1 * -----	1-10										
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)									
<p>The present search report has been drawn up for all claims</p> <p>2</p> <table border="1"> <tr> <td>Place of search Munich</td> <td>Date of completion of the search 6 June 2005</td> <td>Examiner Komenda, P</td> </tr> <tr> <td colspan="2">CATEGORY OF CITED DOCUMENTS</td> <td>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : technological background O : non-written disclosure P : intermediate document</td> </tr> <tr> <td colspan="2"></td> <td>&amp; : member of the same patent family, corresponding document</td> </tr> </table> <p>EPO FORM 1533/02 (Pac01)</p>				Place of search Munich	Date of completion of the search 6 June 2005	Examiner Komenda, P	CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : technological background O : non-written disclosure P : intermediate document			& : member of the same patent family, corresponding document
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CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : technological background O : non-written disclosure P : intermediate document										
		& : member of the same patent family, corresponding document										

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82